WHAT WE CLAIM IS:

1. A lithographic apparatus comprising:

an illumination system for supplying a projection beam of radiation;

an array of individually controllable elements serving to impart the projection beam with a pattern in its cross-section;

a substrate table for supporting a substrate; and

a projection system for projecting the patterned beam onto a target portion of the substrate,

wherein the projection system includes an array of focusing elements, arranged such that each focusing element directs the radiation in the patterned beam from a plurality of the individually controllable elements to thereby expose an area of the substrate.

2. An apparatus according to claim 1, wherein each of the individually controllable elements can be set to one of two states: in a first state, radiation at a first intensity passes into the corresponding portion of the patterned beam; and, in a second state, radiation at a second, lower, intensity, preferably substantially zero intensity, is directed into the corresponding portion of the patterned beam.

3. An apparatus according to claim 2, wherein each of the individually controllable elements can be set to one or more additional states in which radiation, at an intensity between that of the first and second states and different to the other states, is directed into the corresponding portion of the patterned beam.

4. An apparatus according to claim 2, wherein at least one individually controllable element can be set such that in each of its states it passes a different proportion of the radiation incident on the individually controllable element to the associated focusing element than at least one other

individually controllable element that is associated with the same focusing element in anyone of its states.

5. An apparatus according to claim 1, further comprising at least one attenuator for reducing the intensity of the radiation incident on one of the individually controllable elements relative to another individually controllable element associated with the same focusing element.

6. An apparatus according claim 1, further comprising at least one attenuator for attenuating the radiation from one of the individually controllable elements such that a portion of the radiation propagating from the individually controllable element that reaches the associated focusing element is less than a further portion of the radiation propagating from at least one other individually controllable element that reaches said focusing element.

7. An apparatus according to claim 1, further comprising:

an actuator for moving the substrate relative to the projection system at a substantially constant velocity while a predetermined portion of the substrate is exposed; and

a controller for providing control signals to set the individually controllable elements, wherein the controller is arranged to change the settings of the individually controllable elements while a point on the substrate is within the area illuminated by one focusing element such that the intensity of the radiation received at said point is changed.

8. An apparatus according to claim 1, further comprising:

an actuator for moving the substrate relative to the projection system at a substantially constant velocity whilst a predetermined portion of the substrate is exposed such that a given point on the substrate passes within a plurality of areas illuminated by different focusing elements; and

a controller for providing control signals to set the individually controllable elements, wherein the controller is arranged to be able to provide

the required settings to the individually controllable elements such that the intensity of the radiation in the plurality areas illuminated by the focusing elements are such that the point on the substrate, that passes through the areas, receives a desired total dose of radiation during said exposure.

9. A device manufacturing method comprising the steps of:

providing a projection beam of radiation using an illumination system;

using an array of individually controllable elements to impart the projection beam with a pattern in its cross-section; and

using an array of focusing elements as part of a projection system to project the patterned beam onto a target portion of the substrate, wherein each of the focusing elements is arranged to direct radiation in the patterned beam from a plurality of the individually controllable elements onto an area within the target portion, and wherein the individually controllable elements are set to a plurality of different states, in each of which a different intensity of radiation propagates from the individually controllable element to the associated focusing element; and

setting each of the individually controllable elements to produce a desired intensity of radiation at said areas on the substrate.

10. A device manufacturing method according to claim 9, wherein each of the individually controllable elements can be set to at least three states.

11. An device manufacturing method according to claim 9, the method further comprising moving the substrate relative to the projection system at a substantially constant velocity whilst a predetermined portion of the substrate is exposed and changing the settings of the individually controllable elements whilst a given point on the substrate is within the area illuminated by one focusing element.

12. A device manufacturing method according to claim 9, the method further comprising moving the substrate relative to the projection system at a substantially constant velocity whilst a predetermined portion of the substrate is exposed and applying the requisite settings to the individually controllable elements such that the intensity of the radiation in the areas illuminated by a plurality of focusing elements is such that a point on the substrate that passes through the areas receives a desired total dose of radiation.